



**NATO-Ukraine
Cooperation**



**The California Army National Guard State
Partnership Program**

In cooperation with



The Ministry of Environmental and Natural
Resources of Ukraine



USA National Guard



The Bila Tserkva City Administration



California Army National Guard



The Bila Tserkva Agrarian University



California Technology, Trade
and Commerce Agency

The Bila Tserkva Natural Park



University of California Davis



The Kiev Polytechnic Institute

**Introduce the Joint Pilot Project
in Gayok airbase, Bila Tserkva city, Ukraine**

BASE REMEDIATION, PARK RESTORATION AND COMMUNITY AND ECONOMIC DEVELOPMENT

- ❖ environmental cleanup
- ❖ quality of life and health
- ❖ natural park restoration
- ❖ business training & start-ups

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PROJECT STRATEGIC PLANNING POINTS

Mission statement:

To minimize (if not eliminate completely) the direct immediate exposure of water and soil contamination to health and nature in Bila Tserkva community, Ukraine, through new remedial technologies that will positively affect quality of life and economic development in the region.

Problem background:

Military base soils are badly contaminated with heavy metals and petrochemicals. It has caused serious contamination of underground water in the city and soil in the park area. Health statistics show immunologic, cancer and birth defects rates exceeding the standard in times. Heavy contamination has led to health and nature problems and causes community depression.

Project aim:

Project aims at cleaning up the soil at military base and park areas that comes along with underground water remediation and will then stimulate natural restitution of health and park wildlife and plants.

Project components:

Health: assisting medical actions reducing immediate consequences of contamination; woman and children health is priority

Nature: assisting park ecosystem and research activity restoration; introducing new research programs on wildlife and plants

Academic: university-to-university (civ-to-civ) and base-to-base (mil-to-mil) relationships between Ukraine and USA, sharing the new environmental technologies and expertise

Economic: stimulating business initiatives through business training and support of small-sized business projects funded by NATO SPP or other foundations

Project vision:

- Restored and ensured Quality of Life, Personal and Environment Safety, Health Protection
- Nature restored to its original conditions and value
- Introduced Land and Property Use Management
- Brought out economic effects
- Politically Ukraine is a stable partner and not a liability of the world

Project activities timing:

Phase 1: Assessment and Solution – 2003 - 2004

- Military base area: soil and underground water assessment

- Park area: soil, water, wildlife and plants assessment
- Health statistics analyses
- Training ministries and other public players in environmental policy-making

Phase 2: Soil remedial actions – 2004-2005

- At the territory of military base and park

Project goals:

I: health improvement

- To improve dramatically health
- To heighten the affects of remedial actions by introducing new medical methods into city hospital practice

II: environmental cleanup

- To clean (improve) water and soil conditions on the most dangerous spots of technical territory of the military base

III: nature preservation

- To heighten the affects of remedial actions upon park wildlife and plants' ecosystem
- To boost park marketing and business activity in attracting tourists

IV: economic and academic development

- To introduce supportive and safe environment for businesses
- To create benevolent and challenging public ambiance

General introduction and development of:

- Pilot model of base conversion and community development applicable in numerous closed bases of Ukraine resulted from army downsizing
- Success stories enhancing similar approach in future
- Youth active concern and involvement in society development
- Private sector initiatives
- Economy enhancing and supportive environment (training able-bodied population in business making basics, market approaches, business planning, legal aspects of business startup and conducting, bank loans and other methods of gaining start capital etc.)
- Market and customer-driven economy concept and approach
- Democratic society concept

Team's goals:

- To define & connect potential players able to interact on ongoing long-term basis
- To create a network of USA and Ukrainian decision-makers to gain the legitimacy for the project
- To design the project /concept, overall plan of activities, phases, activities for each phase, timelines, budget, administrative/
- To represent an information center /access & collect data, contact multiple specialists, boost data process, inform & keep stakeholders updated, report sponsors and guidance bodies on the progresses/
- To introduce the project /brief/ in different organizations with the purpose of gaining constituent support and raising funds for project implementation

We are looking for:

- The expertise to survey the site in order to learn its status – types and volumes of contamination, impacts on health and nature
- The expertise to cleanup the soil and drinking water applying modern biotechnologies
- The capacities to educate population in the field of environmental security, medical aspects of living in the area with this

PROJECT MUTUAL BENEFITS:

UKRAINE:

Primary:

- **water and soil cleaned**
- **reduced rate of diseases**
- **park eco- and aqua-system restored**
- **economic breakthrough**

Secondary:

- new technologies acquired
- professional training for youth and discharged / fellowship programs
- business opportunities / economy growth
- environmental consultancy capacity created
- tourism re-established
- long-lasting multi-pole partnering

CALIFORNIA / INTERNATIONAL:

Primary:

- unique scientific and research opportunities for UC Davis
- business opportunities for CA-based private companies looking for new markets

Secondary:

- research and business opportunities for CA-based environmental consulting companies
- scientific opportunities for CA-based nature preservation foundations
- park restoration fits to worldwide nature preservation and wildlife protection trend
- prestigious restoration of historical value

EXPECTED OUTCOMES:

I – Drinking Water and Soil Cleaned

HEALTH:

- Reduced cancer numbers / birth defects / improved children mental health

ENVIRONMENT:

- Restoration of microbiological level (preventing further mutation)
- Restoration of plants, wildlife and aqua system

II –Capacities Developed

ECONOMIC:

- Re-established Bila Tserkva city in the Ukraine Agency Tourism Program
- Restoration of agricultural tradition (profit-making startups are possible)
- Transition from manual to high-tech equipment land treatment
- Business startups growth

ACADEMIC:

- Joint CA-UA research team built up / research projects facilitated
- Joint team of Bila Tserkva University and Kiev Polytechnic Institute trained
- Technologies and equipment transferred / UA consultant capacity developed

- Professional Ukrainian training system established
- Attention of domestic and international supporting programs

Why to do this:

Politically:

- To continue the establishment of geopolitical balance and global nuclear security
- To break down political barriers between countries
- To continue state-to-state partnership program
- To assist in and share of democratic society benefits
- To cultivate the responsibilities of government to consequences of using defense facilities
- To assist Ukraine in transition to new market ideology
- To open new partnerships and trade opportunities both for USA and Ukrainian industries / to ensure the soonest transition to the next stage of economic partnership
- To design and multiply the conversion model applicable in numerous closed sites in Ukraine and abroad

Humanitarianly:

- To improve quality of life for current generation /reduced diseases, longer life, safe education and business environment/
- To ensure welfare of families and next generation

Ecologically:

- To restore eco-balance of national park and community locally
- To reinstate and continue flora and fauna research on the base of this park locally
- To improve and restore the eco-balance nationwide and internationally in neighboring countries (Poland, Russia, Moldova, Hungary, Turkey)

Academically:

- To assist in workforce development /training, youth and students exchange, educational programs/
- To call for new technologies /RDTE – Research, Development, Test and Evaluation – opportunities for USA researchers

Economically:

- To convert region into economic growth arena
- To enhance small businesses and private initiatives
- To reinstate historical and eco-tourism in city
- To open new markets for California enterprises

Team prospective

- To express personal commitment to homeland
- To share the global vision "Planet is our home"
- To gain the unique experience in acquiring new country
- To establish and continue personal ties

PROBLEM DESCRIPTION:

NATIONWIDE:

- **Drinking water and soil contamination** caused by airbase and bomber repair facilities

- Created significant immediate and latent health problems and
- Is destroying "Alexandria" national park

INTERNATIONALLY:

- Heavily contaminated substances enter the groundwater, migrating through "Alexandria" national park toward Ros river, source of drinking water, tributary of Dnieper, flowing into the Black Sea (see map)

Source and types of contamination:

Rocket fuel:

- heavy metals, chromium, phenols, nitrates, amino compounds, oxidizers, mélange
- current status – in tanks and containers, dangerous condition, no evident leak

Aviation fuel:

- petrochemicals, pored out into soil in big quantity (ex-USSR central planning system defect)
- current status – possibly mixed to soil and not in a liquid condition anymore



IMPACTS ON COMMUNITY:

HEALTH:

- Population decreased at 23.000 (10%) in last 10 years
- Neoplasm (unknown new formations and growth) cases increased at 27% in 10 last years
- Birth rate is 6 (Ukraine 8), death rate is 23 (Ukraine 15,3)
- Natural increase rate “-18” (average in Ukraine “-7”)
- DNA changes in 2000 is increased this rate of 1985 in 7 times
- Mutation rate in every next generation is increased by 50%
(<http://www.chernobyl.info/ru/Facts/HealthLongterm/GeneticDefects>)

Health statistics (to compare with the average of Ukraine):

- | | |
|--|--|
| = Morbidity – 25-50 % above average | = Birth defects – 18-20 % higher |
| = Number of death - 15,2 % higher | = Maternal mortality – 7 % higher |
| = Respiratory diseases – 15 times higher | = Neonatal mortality – 16 % |
| = Lung diseases – 2 times above average | = Premature babies diseases – 3 times |
| = Digestive diseases – 2-3 times above average | = Cancer cases – 6 times higher |
| = Skin diseases 27-32 % higher | = Retarded children – 51 % increased in 10 years |

Diagnoses: pathogenic microorganisms causing dysfunction of physical and psychological health, nervous disorders, genetic code mutation, rough, unbalance state, insomnia and as a result - cardiovascular and mental affections, cancer dynamic, immunological problems.

Also: workplace problems and loss of recreation sites. These problems exceed those at other known sites worldwide, posing threats to the ecology of an entire region and on the life and health of hundreds of thousands of people.

ENVIRONMENT:

- The unique national park and research capacity is being considerably damaged
- Ecosystem unstable and mutating
- Wildlife unstable, mutation possible
- Pans are **drying out** (*see photo*)

ECONOMIC:

- Agricultural and cattle traditions broken
- **Loss of tourists**, because of exposure to contamination of trees and lakes that frighten tourists away, Ukraine Tourist Agency **excluded** Bila Tserkva from the tour program

IMPACTS ON THE NATURE

Unique, 200-year-old architectural and ecological jewel, **National Park “Alexandria”**, was built by a Russian noble family in the 1700s, destroyed by Bolshevik revolutionaries, then reconstructed after World War II. The park includes more than 600 species of exotic trees and shrubs in a meticulously designed setting.



Lakes covered with the layer of kerosene seeping out, drying out effect

The park is a research site that studies and acclimatizes plants, preserves rare and endangered flora and protects and restore the historical architecture. Today this rich botanic and historic treasure is being destroyed by heavy soil and groundwater contamination from Gayok former bomber base.

City used to have a mineral water source which is not curative any longer,
<http://globis.geog.uu.nl/Users/Perk/MinWat/Analysis.asp?Country=Ukraine&Brand=Zamkova%20Zora>



BILA TSERKVA COMMUNITY:

Located in the very agrarian heartland of Ukraine, 80 km South of capital Kiev, along Ros river (tributary of Dniper, main river of Ukraine, third river of Europe)

Population is 192000 in 2000 (decreased 215000 in 1988)



The city has over 10-century history beginning with its foundation in 1032 by prince Jaroslaw Mudry, the city was a regimental town since 1648 it and became the headquarters of the Ukrainian Cossacks in the 17th cent.

The city is proud by names of world outstanding personalities as:

Yury Linnik, mathematician, academic of the USSR Academy of Sciences, President of the Moscow Mathematical Society for many years, honored by the national mathematical society of Sweden and was awarded an honorary degree from Paris,

<http://www-gap.dcs.st-and.ac.uk/~history/References/Linnik.html>,

<http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Linnik.html>

Isaak Tsidil'kovskiy, a Full Member of the Russian Academy of Sciences, an outstanding scientist and a recognized authority in semiconductor physics,

ufnioc.ac.ru/ufn02/ufn02_7/pers027b.pdf

Lyudmila Pavlichenko, the greatest female sniper of all time was Major Pavlichenko, became the first Soviet citizen to be received by President and Mrs. Roosevelt at the White House. Hero of the Soviet Union, [http://soviet-](http://soviet-awards.addr.com/digest/pavlichenko/pavlichenko1.htm)

[awards.addr.com/digest/pavlichenko/pavlichenko1.htm](http://soviet-awards.addr.com/digest/pavlichenko/pavlichenko1.htm)

Archbishop Feofan was born in 1954, in Bila Tserkva,

http://www.orthodoxresearchinstitute.org/resources/hierarchs/russia/current/bios/bio_feofan_galinskii_arch_berlin.htm

T. Lysenko, the Scientific Director of the Odessa Institute and a full member of the Ukrainian Academy of Science, vernalization applied to many millions of hectares of different crops, <http://www.virnw.ru/history/lysenko.htm>

Artur Dmitriev, multi World Champion in figure skater,

<http://www.icechampions.com/bios/dmitrievbio.html>

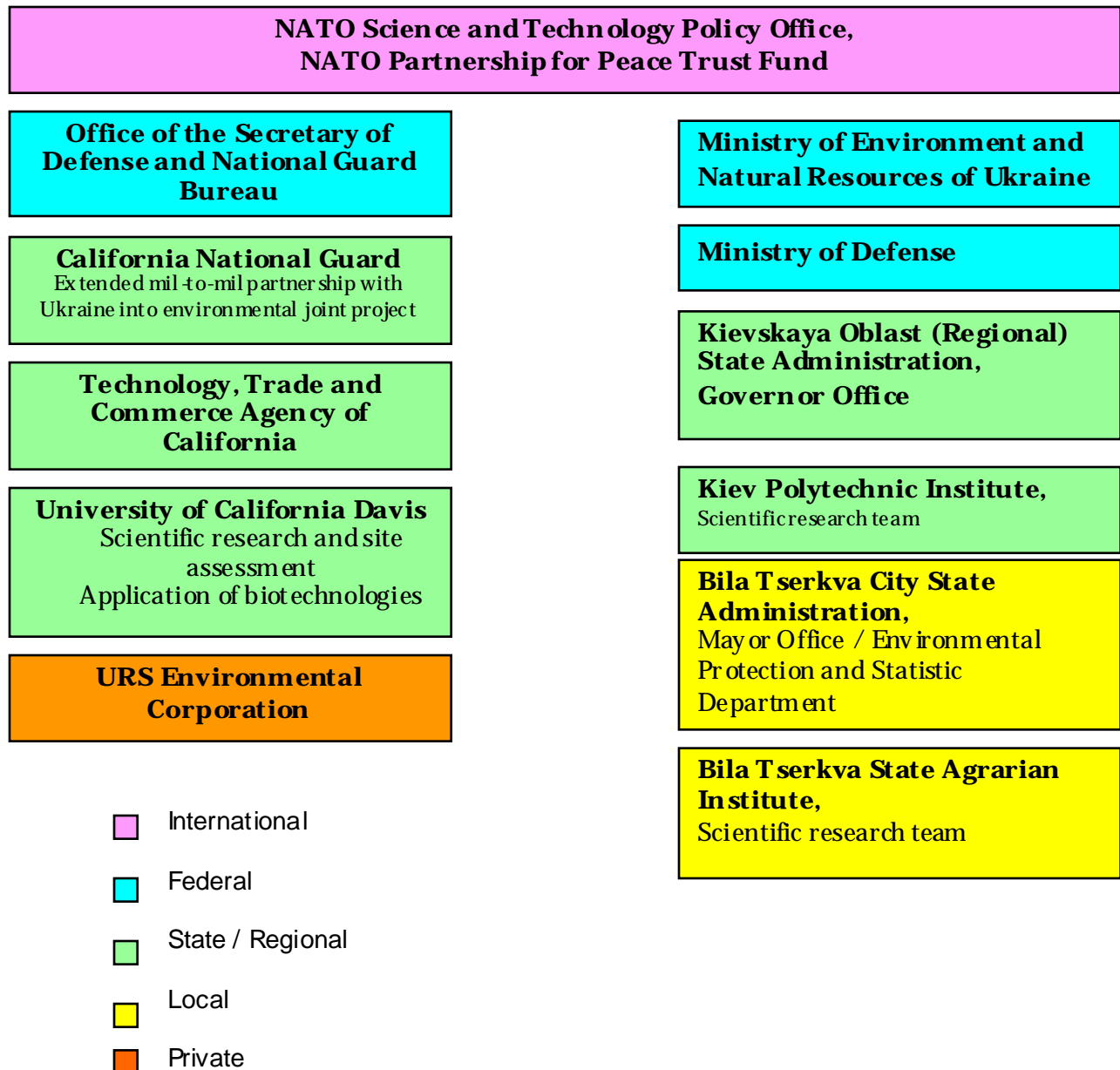
Mykola Varenia, painter, oil on canvas, widespread recognition, participated in several international art exhibitions,

http://www.artukraine.com/paintings/exhibition/exhibition_p14.htm

Aleksandr Egidis, impressionist painter, member of the Union of Artists of the USSR. His paintings have been collected abroad in Japan, Greece, Venezuela, Bangladesh, Germany, and the United States. Egidis was a featured artist at exhibitions in East Germany (1959, 1985), Czechoslovakia (1977, 1982, and 1988), and Finland (1970, 1987). Egidis was awarded the title Honored Artists of Russia in 1986, http://www.tmora.org/bios/Bio.asp?RECORD_INDEX=3

Rita Ostrovskaya, photographer, <http://www.rita-art.org/fa-e.html>

PROJECT STAKEHOLDERS:



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